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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/518,597

12/21/2004

Gerard Laslaz

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05/09/2008

WOMBLE CARLYLE SANDRIDGE & RICE, PLLC

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EXAMINER

MORILLO, JANEL COMBS

ART UNIT

PAPER NUMBER

1793

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DELIVERY MODE

05/09/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/518,597

Applicant(s)

LASLAZ ET AL.

Examiner

Janelle Morillo

Art Unit

1793

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-13 and 15-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-13 and 15-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/26/2008 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, 4-13, 15-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over SU 348633A (SU'633).

SU'633 teaches an aluminum casting part with good strength properties (abstract) formed from aluminum alloy with 6-8% Si, 0.5-0.9% Mg, 0.3-0.7% Cu, 0.05-0.2% Zr, 0.1-0.2% Ti, 0.1-0.2% Mn, which overlaps or touches the boundary of the presently claimed ranges of Si, Mg, Cu, Ti, Zr, Fe, Mn, Zn, and Ni of claims 1, 2, 4, 5, 7-11, 15-19, 21). Because SU'633 teaches an overlapping alloy composition, it is held that SU'633 has created a prima facie case of obviousness of the presently claimed invention.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility. Additionally, "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages," In re Peterson, 65 USPQ2d at 1379 (CAFC 2003).

Concerning the equation in claims 6 and 20, SU'633 teaches ranges of Mg and Cu that meet said limitation.

Concerning product by process claim 12, SU'633 does not mention (in the translated parts) the heat treatment temper applied to said Al-Si alloy. However, it would have been obvious to one of ordinary skill in the art to apply a peak strength T6 type temper to the alloy taught by SU'633 because said alloy is used for high strength manufacturing parts such as a diesel engine (abstract).

Concerning product claim 13, because SU'633 teaches said alloy is used for high strength heavy duty machinery body castings, it would have been obvious to one of ordinary skill in the art to cast the alloy taught by SU'633 into a cylinder head or crankcase, substantially as presently claimed.

Concerning new claims 22 and 23, SU'633 does not specify the creep strain. However, because SU'633 teaches an overlapping alloy composition, foundry cast, and motivation to apply

the instant heat treatment temper, then substantially the same creep resistance is expected for the alloy of SU'633 as for the instantly claimed alloy.

4. Claims 1-2, 4-13, 15-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dulin (US 2,821,495A).

Dulin teaches an aluminum casting part with good strength properties (column 1 lines 14-17) formed from aluminum alloy with 5-10% Si, 0.25-0.6% Mg, 0.1-1.5% Cu, 0.01-1% of one or more of Zr, Ti, and Mn (column 2 lines 31-40), which overlaps or touches the boundary of the presently claimed ranges of Si, Mg, Cu, Ti, Zr, Fe, Mn, Zn, and Ni of claims 1, 2, 4, 5, 7-11, 15-19, 21). Because Dulin teaches an overlapping alloy composition, it is held that Dulin has created a prima facie case of obviousness of the presently claimed invention.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05.

Concerning the equation in claims 6 and 20, Dulin teaches ranges of Mg and Cu that meet said limitation.

Concerning product by process claim 12, Dulin teaches a solution heating, quenching, and artificially aging heat treatment temper applied to said Al-Si alloy (column 2 lines 41-63), which qualifies as a peak strength T6 type temper.

Concerning product claim 13, because Dulin teaches said alloy is used for high strength structural component castings (column 4 lines 16-17), it would have been obvious to one of ordinary skill in the art to cast the alloy taught by Dulin into a cylinder head or crankcase, substantially as presently claimed.

Concerning new claims 22 and 23, Dulin does not specify the creep strain. However, because Dulin teaches an overlapping alloy composition, foundry cast, as well as the instant heat treatment temper, then substantially the same creep resistance is expected for the alloy of Dulin as for the instantly claimed alloy.

Response to Arguments

5. In the response filed on February 26, 2008, applicant added new claims 22-23. The examiner agrees that no new matter has been added.
6. As stated in the previous office action, applicant has overcome the rejections in view of JP'244, the examiner agrees that JP'244 does not teach or suggest a Al-Si alloy complete with the instant Fe maximum.
7. As previously stated, the declaration under 37 CFR 1.132 filed 4/27/2007 (along with the arguments filed 4/6/2007) was sufficient to overcome the rejection of claims 1-20 based upon FR'927. The examiner agrees that FR'927 teaches a range of V outside the instant claims. However, said declaration does not show unexpected results with respect to the newly applied art of Dulin or SU'633. Additionally, it is unclear that the entire claimed alloying ranges are expected to behave in a manner consistent with the tested examples.
8. Applicant's argument that the present invention is allowable over the prior art of record because the amounts of B, Be, and misch metal taught by SU'633 are excluded by the instant claim has not been found persuasive. The amounts of B, Be, and misch metal taught by SU'633 fall within (or with respect to V, 0.1% is held to be a close approximation of) <0.1% each and <0.30% total. The examiner notes and agrees that SU'633 appears to teach a minimum amount

of V of 0.1%. Further, the transitional phrase “consisting essentially of” limits the scope of a claim to the specified materials or steps “and those that do not materially affect the basic and novel characteristic(s)” of the claimed invention. In re Herz, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). For the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, “consisting essentially of” will be construed as equivalent to “comprising.” See, e.g., PPG, 156 F.3d at 1355, 48 USPQ2d at 1355. The applicant has not shown that the addition of B, Be, and misch metal would affect the basic and novel properties of the CLAIMED inventive alloy. Applicant argues and provides a reference that shows the addition of lanthanide RE elements effect hardness, elongation, and tensile strength. Applicant further states that one of ordinary skill in the art would not consider the alloy so SU’633 to arrive at the claimed invention. However, it is still unclear that the addition of 0.1-0.2% misch metal taught by SU’633 would clearly be excluded by ‘consisting essentially of’ claimed language, i.e. that 0.1-0.2% misch metal would materially affect the basic and novel characteristics of the claimed inventive alloy.

9. Applicant’s argument that the present invention is allowable over the prior art of record because the prior art is drawn to a different type of product from the instant Al-Si casting alloy has not been found persuasive. The motivation to cast the Al-Si alloy into a cylinder head or crankcase (instant claim 13) is set forth above.

10. Applicant’s argument that the present invention is allowable over the prior art of record because there is no motivation to select Zr from the markush group taught by the prior art has not been found persuasive, because it is prima facie obvious to substitute equivalents known for the

Art Unit: 1793

same purpose, see MPEP 2144.06. It would have been obvious to one of ordinary skill in the art to select Zr from the markush group taught by Dulin, because Dulin teaches Zr is a suitable element to provide the predictable result of grain refining and hardening.

11. Applicant's argument that the present invention is allowable over the prior art of record because SU'633 does not suggest the hot creep resistance may be improved while maintaining ductility without the addition of V has not been found persuasive. Similarly, Applicant's argument that the present invention is allowable over the prior art of record because Dulin does not teach or suggest the addition of Zr to Cu and Mg without the addition of further hardening or refining elements has not been found persuasive. It is unclear that the ranges of additional elements taught by the prior art are excluded by the instant 'consisting essentially of' claim language (see above discussion of 'consisting essentially of'). Further, applicant has not clearly shown specific unexpected results with respect to the prior art of record or criticality of the instant claimed range (wherein said results must be fully commensurate in scope with the instantly claimed ranges, etc. see MPEP 716.02 d).

12. Applicant's argument that the present invention is allowable over the prior art of record because SU'633 or Dulin do not specify the creep strain has not been found persuasive. However, because the prior art teaches an overlapping alloy composition, foundry cast, and motivation to apply the instant heat treatment temper, then substantially the same creep resistance is expected for the alloy of the prior art as for the instantly claimed alloy. Once a reference teaching product appearing to be substantially identical is made the basis of a rejection, and the examiner presents evidence or reasoning tending to show inherency, the burden shifts to the applicant to show an unobvious difference. "[T]he PTO can require an applicant to prove that

Art Unit: 1793

the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency' under 35 U.S.C. 102, on prima facie obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products." *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)), see MPEP 2112. Applicant has not clearly shown an unobvious difference between the instant invention and the prior art's product.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 7:30 am- 4:00 pm Mon-Wed.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art Unit
1793

/J. M./
Examiner, Art Unit 1793
May 5, 2008

Application Number**Application/Control No.**

10/518,597

**Applicant(s)/Patent under
Reexamination**

LASLAZ ET AL.

Examiner

Janelle Morillo

Art Unit

1793